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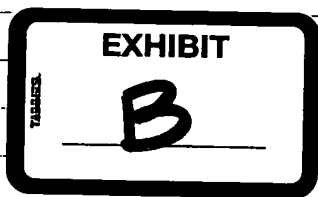
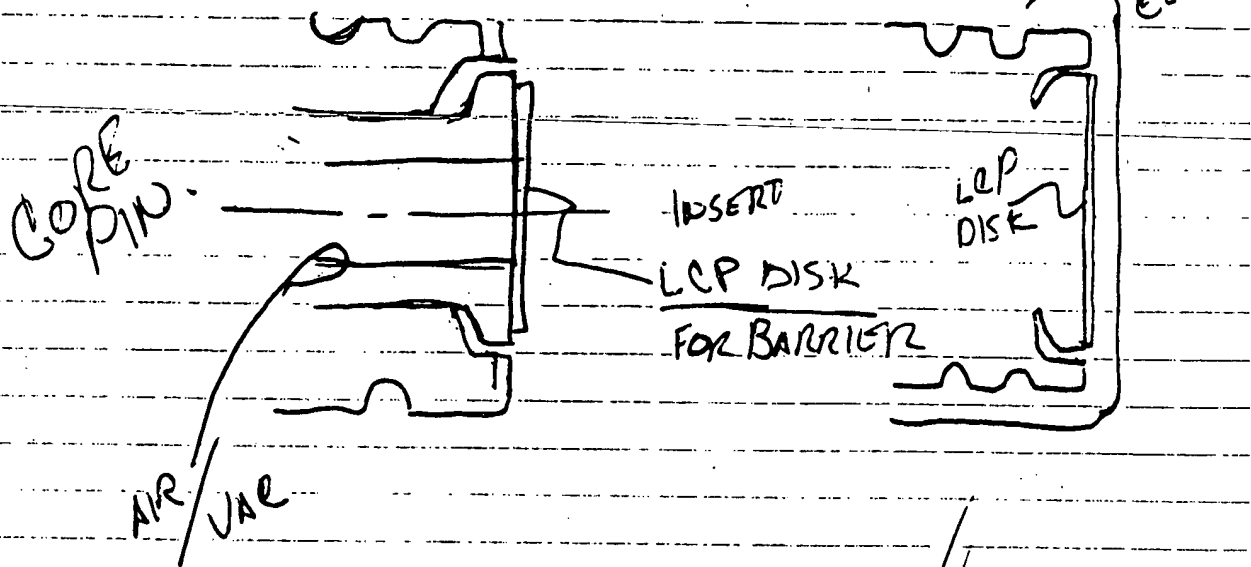
Project BDS B RIER

Date

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Description INSERT MOLDED BARRIER FOR CAPEOK LINDRELLS CLOSURE

INSERT MOLDED BARRIER
FOR ONE PIECE CLOSURES.



Wendell D. Wilty

* SEE PAGES 15 & 16 OF THIS BOOK.

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Pages _____ to _____
read and understood and
Witnessed by _____

Philip B. Bouscass

Signed _____

Date _____

- INVENTION FROM TECHNICAL DISCUSSIONS WITH ROO'DRUM OF CAPS-UK, A OI COMPANY. ON 6/7/2006 AT BLO 29-LDP.

Ref

- * ISSUE : HOW TO ADD A HIGH BARRIER TO A LINDERLESS CLOSURE. THAT IS COMPATIBLE TO THE RECYCLING STREAM AND MINIMIZES SORPTION INTO THE CLOSURE.

(A) CURRENT TECHNOLOGIES:

1. SHELL MATERIALS LIKE POLY-P & POLY-E ARE NOT GOOD BARRIERS TO CO₂ (450-600 cc-AT MIL/DAY @ 72°F.
2. BARRIER OVER-COATS SUCH AS PPG BAR-CAD (EPOXY-AMID) ARE ON THE OUTSIDE AND CAN'T STOP THE POLYMER FROM SORBIN GAS, FLAVORS, OOO INTO SHELL. ALSO BARRIER THROUGH SHELL AROUND COATING IS STILL AN ISSUE.
3. FOLDS INSIDE CLOSURE BEHIND SEAL AREA ARE NOT COMPATIBLE WITH RECYCLING OF CONTAINERS.

(B) SOLUTION:

- (1) INSERT MOLD A HIGH BARRIER MATERIAL INTO TOP OF CLOSURE BEHIND SEAL AREA. USE ROBOT ARM TO PLACE DISK ON END OF CORE PIN. THE CAPS TOOLS HAVE A AIR VENT IN THE INTER CORE SLEEVE THAT IS USED TO ASSIST IN REMOVING THE CLOSURE FROM THE PIN BY BLOWING AIR INTO THE VENT DURING EJECT.

Wendell D. Witt
[Signature]

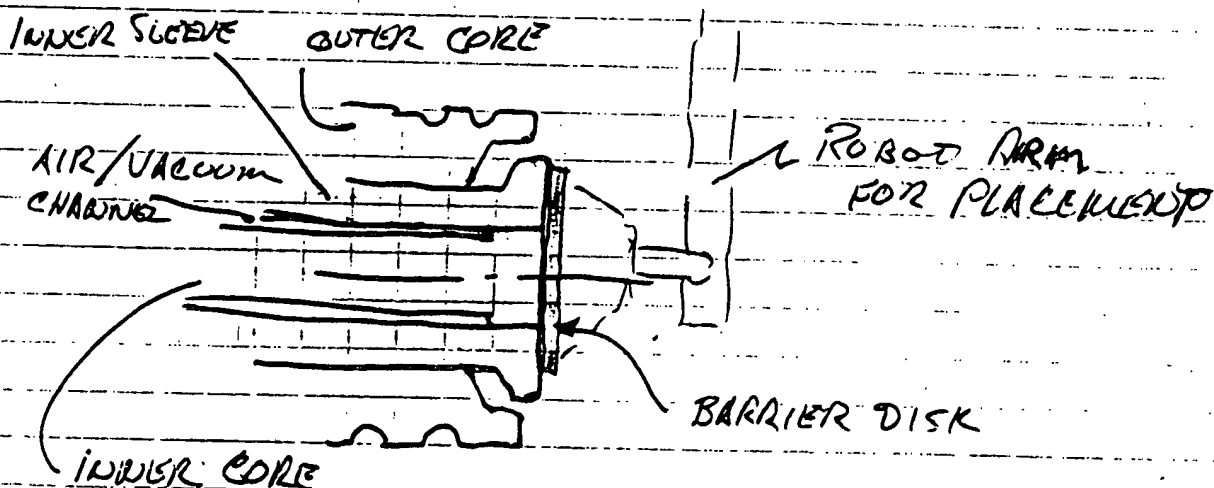
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(1) CONTINUED.

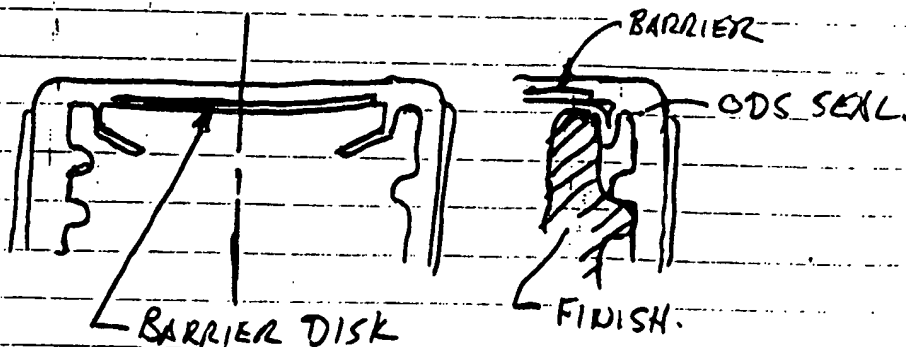
BY REPLACING 2WAY VALVE WITH A 3 WAY VALVE TO CONTROL THE AIR FLOW, A VACUUM PUMP COULD BE USED ALONG WITH THE AIR PRESSURE. THE VACUUM CAN HOLD THE DISK IN PLACE TILL THE MOLD IS FILLED AND THE AIR CAN STILL BE USED TO ASSIST IN CLOSURE REMOVAL.

2. DISK COULD BE A MULTI LAYER WITH A EVOH BARRIER, AND LCP, EVOH OR EVEN A PET. A MULTI LAY DISK COULD BE ACTIVE OR PASSIVE BARRIER.

3. THE BACK SIDE OF DISK COULD BE PRINTED FOR PROMOTIONS. EMBROIDING WOULD ALSO BE AN OPTION.



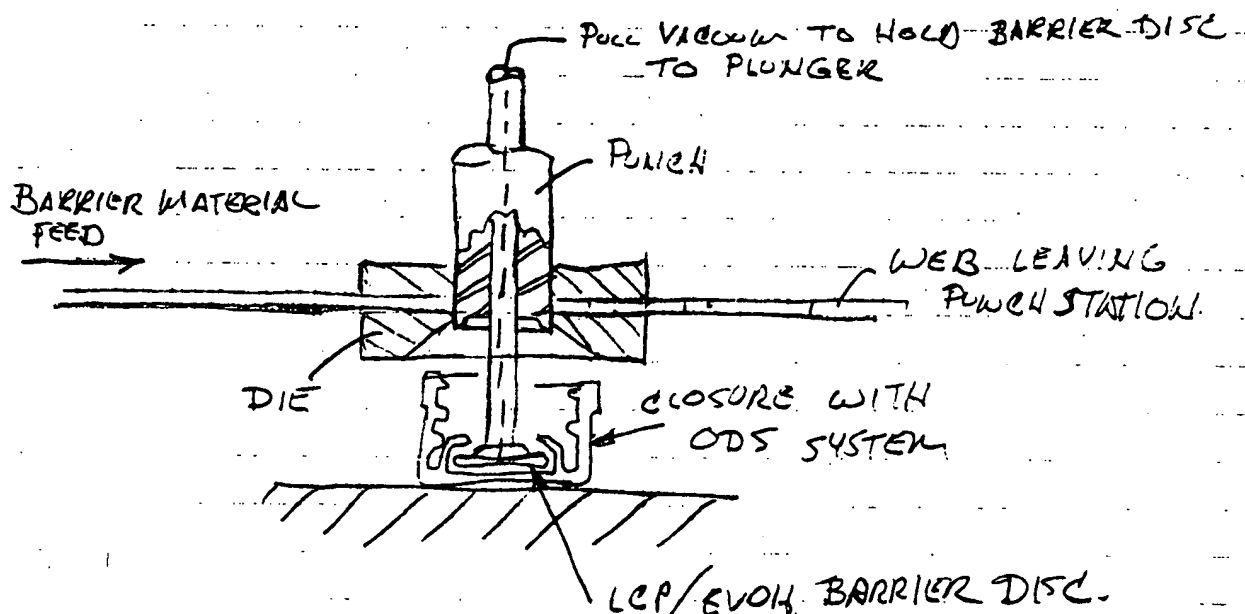
Wendell D.
Walters



* ALTERNATIVE TO IN-HOLD INSERTION OF HIGH BARRIER THIN DISC OF LCP OR EVOH.

IT IS COMMON TO PUNCH LINING MATERIALS OR FOIL SEALS AND INSERT THEM INTO A CLOSURE.

THE THIN LCP/EVOH WILL REQUIRE SPECIAL HANDLING DUE TO ITS HIGHLY CRYSTALLINE STRUCTURE (FRAGILE) AND THE AMOUNT OF INTERFERENCE WITH THE SEAL.



* PROCEEDS AS DEFINED BY ROB DRAITT BY PHONE!